EasyHeat™ SR Trace™ Cable

Pipe Freeze Protection and Temperature Maintenance, Self-Regulating, Cut-to-Length.

For Residential and Commercial Applications.

Product Overview

- SR Trace™ cable is a self-regulating heating cable that provides maximum freeze protection and maintains temperatures for supply and drain pipes and vessels.
- The self-regulating heating cable automatically varies its heat output as the surrounding temperature changes.

Applications

- Commercial metal or plastic water supply and drain pipes subject to freezing.
- Liquids piped during processing that require constant temperatures.
- Freeze protection for main and branch sprinkler systems.
- Suitable for refrigeration/HVAC condensation lines that are subject to freezing temperatures.

Features

- Maximum freeze protection for pipes and vessels in ambient temperatures down to -40°F (-40°C).
- Freeze protection for metal or plastic pipes up to 8 in (30.32 cm) in diameter.
- Available in power densities of 3, 5, and 8 Watts per foot (0.30 m) at +50°F (+10°C) for both 120 and 240 Vac applications.
- 240 Vac can be used for 208 or 277 Vac applications.
- Available in cut-to-order lengths, convenient 250 ft (76.20 m) self dispensing reel boxes and 750 ft (228.6 m) master supply reels.
- Manufactured with a waterproof TPE outer jacket.
- Can be installed in dry or wet environments.
- Can be wrapped over itself (overlapped), if necessary, when installed on pipes, valves or flanges.
- One year limited warranty.

Related Products

- It is recommended that heating cables for freeze protection be controlled by a thermostat to minimize energy consumption. See *EasyHeat™ Pipe Tracing Controls*. Control options available:
  - — T4XA Thermostat
  - — C4XC Thermostat
  - — C3RC Thermostat

Accessories

- We offer specially designed kits that ease installation and connection of SR Trace™ products. See *EasyHeat™ SR Trace™ Cable Connection Kits and Accessories*

Certifications

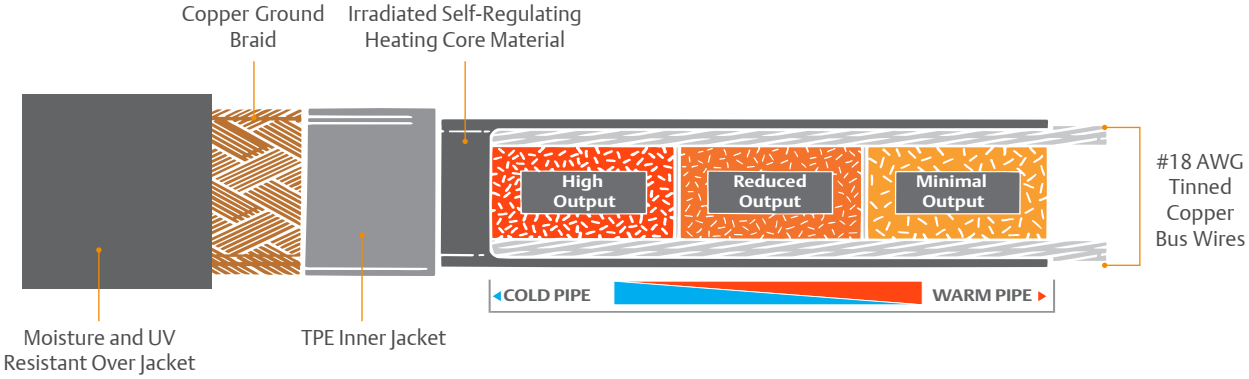
- UL listed and CSA certified to US and Canadian Safety Standards.

Note:

- *Per NEC and CEC requirements ALWAYS use a ground fault protection device (GFEP) to reduce the danger of fire from a damaged or improperly installed heating cable. Electrical fault currents caused by damaged or improperly installed cable MAY NOT BE LARGE ENOUGH to trip a conventional circuit breaker.*
- *Heating cables must be installed in compliance with all national, state/provincial and local codes. Check with your local electrical inspector for specific details.*
- *Do not twist the bus wires together at either end of the cable.*
- *It is recommended that all heat traced pipes have a minimum of 1/2 in (12.7 mm) of fiberglass insulation or equivalent.*
- *All electrical connections in the system should be sealed against moisture.*
- *Do not expose heating cables to temperatures above their maximum ratings.*

Illustrated Features

A special self-regulating core is at the center of the SR Trace™ cable. This core is conductive and adjusts according to the surrounding temperatures. When it is cold, the cable's core has many conductive paths that generate enough heat to keep the water flowing in the pipe. As the surrounding temperature warms, there are fewer conductive paths and less heat is generated.



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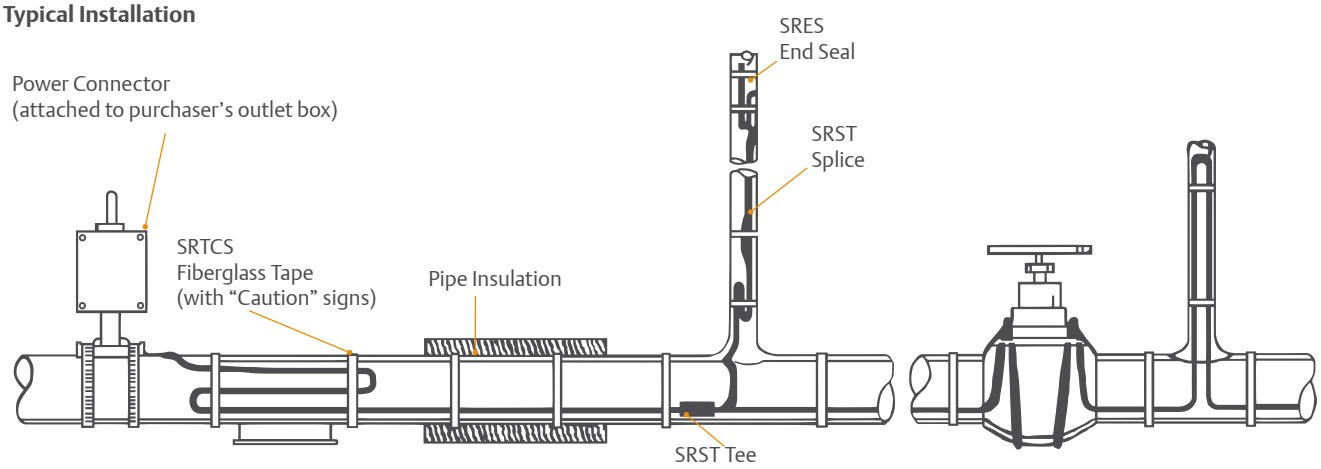
How To Determine The Length of Cable You Need

Typical Installation



Step 1: Planning
Determine the following information to enable proper selection of heating cable:

- Pipe diameter
- Pipe length
- Pipe material
- Minimum ambient temperature
- Type of insulation
- Thickness of insulation
- Number of flanges, pipe supports, shoes, etc.
- Power supply voltage
- Number of valves

Step 2: Cable Selection
Using the information from Step 1, select the appropriate heating cable type and number required from Table 1: Pipe Freeze Protection.

Step 3: Determine Cable Length
Total Cable Length = [Number of Cables (see Table 1) x Pipe Length]
+ (4 ft x Number of Valves)
+ (2 ft x Number of Flanges/Supports, etc.)

Example:

- Pipe Diameter: 3 inches
- Pipe Length: 105 ft
- Pipe Material: Steel
- Minimum Ambient Temperature: -10°F
- Type of Insulation: Fiberglass
- Thickness of Insulation: 1 inch
- Flanges, Supports, etc.: None
- Power Supply Voltage: 120 Vac
- Number of Valves: 3

SR51J
Cable Length:
(1 x 105 ft) + (4 ft x 3 valves) + (2 ft x 0) = 117 ft

Step 4: Power Supply Requirements
The total length of the heating cable installed on any circuit must not exceed the "Maximum Total Cable Length" associated with the circuit breaker supplying the circuit, see Table 2. If total length of heating cable required does exceed that allowed for the circuit breaker supplying the circuit, either a larger circuit breaker (and associated wiring) must be used, or multiple circuit breakers (and associated wiring) must be installed. From Table 2: Circuit Breaker Selection, determine the number of circuits and circuit breaker size required to supply the heating cables.

Step 5: Cable Routing
From the piping arrangement, determine the length of the longest single run of cable. If this value exceeds the "Maximum Length Single Run" found in Table 3. Performance and Rating Data, then the cable routing, or type of cable selected, must be altered. Also, 240 Vac cables allow longer single runs than 120 Vac cables.

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Table 1. Pipe Freeze Protection
Legend: A = SR31J (120V) or SR32J (240 or 277V) | **B** = SR51J (120V) or SR52J (240 or 277V) | **C** = SR81J (120V) or SR82J (240 or 277V)

Pipe Diameter in (mm)	Insulation Thickness in (mm)	Minimum Ambient Temperature							
		+14°F (-10°C)		-4°F (-20°C)		-22°F (-30°C)		-40°F (-40°C)	
		Metal Pipe	Plastic Pipe	Metal Pipe	Plastic Pipe	Metal Pipe	Plastic Pipe	Metal Pipe	Plastic Pipe
1/2 (12.70)	0.5 (12.70)	A	A	A	A	A	B	B	C
3/4 (19.05)		A	A	A	B	B	B	B	C
1 (25.40)		A	A	A	B	B	C	B	C
1-1/4 (31.75)		A	A	A	B	B	C	B	C
1-1/2 (38.10)		A	A	B	C	B	2B	C	2C
2 (50.80)		A	B	B	C	C	2B	C	2C
2-1/2 (63.50)		A	B	B	C	C	2C	2B	2C
3 (76.20)		B	B	B	2B	②	2C	2C	②
4 (101.60)		B	B	C	2C	②	②	2C	②
6 (152.40)		B	2B	2B	②	②	②	②	②
1/2 (12.70)	1 (25.40)	A	A	A	A	A	A	A	B
1 (25.40)		A	A	A	A	A	B	A	B
1-1/2 (38.10)		A	A	A	B	A	B	B	C
2 (50.80)		A	A	A	B	B	C	B	C
2-1/2 (63.50)		A	A	A	B	B	C	C	2B
3 (76.20)		A	A	B	C	B	C	C	2B
4 (101.60)		A	B	B	C	C	2B	C	2C
6 (152.40)		B	B	C	2B	C	2C	2C	②
8 (203.20)		B	②	C	2C	2B	②	2C	②
1-1/2 (38.10)	1.5 (38.10)	A	A	A	A	A	B	A	B
2 (50.80)		A	A	A	A	A	B	B	C
4 (101.60)		A	A	A	B	B	C	C	2B
6 (152.40)		A	B	B	C	C	2B	C	2C
8 (203.20)		A	②	B	2B	C	2C	2B	②
2 (50.80)	2 (50.80)	A	A	A	A	A	B	A	B
4 (101.60)		A	A	A	B	B	C	B	C
6 (152.40)		A	A	B	C	B	C	C	2B
8 (203.20)		A	②	B	C	C	2B	C	2C
4 (101.60)	3 (76.20)	A	A	A	A	A	B	A	B
6 (152.40)		A	A	A	A	A	B	B	B
8 (203.20)		A	②	A	②	B	②	B	②

① For operation at 208 Volts, use the cable recommended for the next colder minimum ambient temperature. For example, to protect a 2-1/2 in (63.50 mm) metal pipe with 1/2 in (12.70 mm) insulation to +14°F (-10°C), use the value found under -4°F (-20°C) column, resulting an SR52J cable.
② Contact your local EasyHeat™ sales representative for cable selection.

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Circuit Breaker Selection ①

Voltage	Cable Power Watts/ft (Watts/m)	Minimum Start-up Temperature °F (°C)	Maximum Total Cable Length vs. Circuit Breaker Rating ft (m)		
			15A ③	20A	30A
120	3 (10)	-40 (-40)	170 (51)	226 (69)	340 (103)
		0 (-18)	210 (64)	280 (85)	420 (128)
		+40 (+4)	270 (82)	360 (110)	540 (165)
	5 (16)	-40 (-40)	123 (37)	163 (49)	245 (74)
		0 (-18)	155 (47)	205 (63)	320 (98)
		+40 (+4)	195 (59)	255 (78)	385 (117)
	8 (26)	-40 (-40)	86 (26)	115 (35)	173 (52)
		0 (-18)	105 (32)	140 (43)	210 (64)
		+40 (+4)	135 (41)	180 (55)	270 (82)
240	3 (10)	-40 (-40)	340 (103)	473 (138)	679 (207)
		0 (-18)	420 (128)	555 (169)	835 (255)
		+40 (+4)	540 (165)	720 (220)	1080 (329)
	5 (16)	-40 (-40)	245 (74)	327 (99)	490 (149)
		0 (-18)	310 (95)	415 (127)	620 (189)
		+40 (+4)	385 (117)	515 (157)	770 (235)
	8 (26)	-40 (-40)	173 (52)	231 (70)	346 (105)
		0 (-18)	210 (64)	280 (85)	425 (130)
		+40 (+4)	270 (82)	360 (110)	540 (165)

Performance and Rating Data

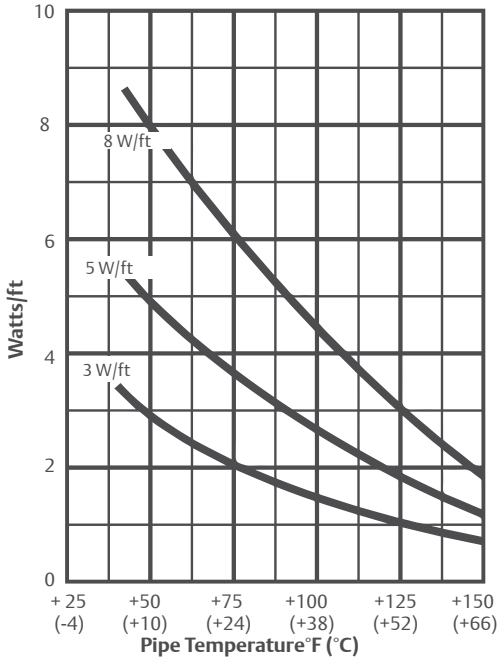
Catalog Number	Voltage	Power Rating Watts/ft (Watts/m) @ +50°F (+10°C)	Maximum Length Single Run ft (m)
SR31J	120	3 (10)	310 (94)
SR32J	240	3 (10)	620 (188)
SR51J	120	5 (16)	240 (73)
SR52J	240	5 (16)	480 (146)
SR81J	120	8 (26)	190 (58)
SR82J	240	8 (26)	380 (116)

Maximum maintenance temperature, all cables: +150°F (+66°C).
Maximum intermittent exposure temperature, all cables: +185°F (+85°C).

Voltage Adjustment Table ②

Cable	Power Rating Multiplier		
	208 Vac	240 Vac	277 Vac
SR32J	0.71	1.00	1.34
SR52J	0.80	1.00	1.20
SR82J	0.87	1.00	1.12

Nominal Power Output on Metal Pipe



Note:
① Circuit breakers are sized per article 427-4 of NEC and CSA/CEC 62-114.
② To operate 240 Vac cables at 208 Vac or 277 Vac, the cable power is modified by the "power rating multiplier" in the voltage adjustment table. The maximum total lengths on a circuit breaker (circuit breaker selection table) and the maximum single run lengths (performance and rating data table) do not change.
③ When using two (2) or more heating cables of different wattage ratings in parallel on a single circuit breaker, use the 15A column amperage of 15 amps, divide it by the maximum footage to arrive at an amps/ft figure for each cable. Then calculate circuit breaker size for the combined loads. These amps/ft factors include the sizing factor in (1) above.

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Product Selection

Catalog Number	Description	Carton Quantity	Carton Weight lb (kg)	UPC
SR31J	3 Watts per foot (0.30 m), 120 Vac, cut-to-order	1	0.057 (0.026) per foot	01362700302
SR31J250	250 ft (76.20 m) self-dispensing reel	1	20 (9.1)	01362706925
SR32J	3 Watts per foot (0.30 m), 240 Vac, cut-to-order	1	0.057 (0.026) per foot	01362700189
SR32J250	250 ft (76.20 m) self-dispensing reel	1	20 (9.1)	01362706923
SR51J	5 Watts per foot (0.30 m), 120 Vac, cut-to-order	1	0.057 (0.026) per foot	01362700877
SR51J250	250 ft (76.20 m) self-dispensing reel	1	20 (9.1)	01362706921
SR51J750	750 ft (228.60 m) self-dispensing reel	1	72 (32.7)	01362706926
SR52J	5 Watts per foot (0.30 m), 240 Vac, cut-to-order	1	0.057 (0.026) per foot	01362701021
SR52J250	250 ft (76.20 m) self-dispensing reel	1	20 (9.1)	01362706919
SR52J750	750 ft (228.60 m) self-dispensing reel	1	72 (32.7)	01362706924
SR81J	8 Watts per foot (0.30 m), 120 Vac, cut-to-order	1	0.057 (0.026) per foot	01362700192
SR81J250	250 ft (76.20 m) self-dispensing reel	1	20 (9.1)	01362706917
SR81J750	750 ft (228.60 m) self-dispensing reel	1	72 (32.7)	01362706918
SR82J	8 Watts per foot (0.30 m), 240 Vac, cut-to-order	1	0.057 (0.026) per foot	01362700164
SR82J250	250 ft (76.20 m) self-dispensing reel	1	20 (9.1)	01362706915
SR82J750	750 ft (228.60 m) self-dispensing reel	1	72 (32.7)	01362706916